



# **ABM-200**

## **Airflow & Environmental Meter**

### **User Guide**

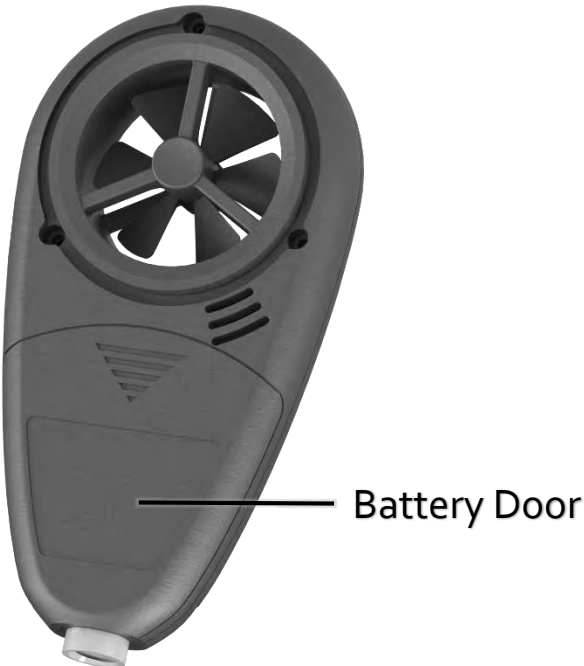
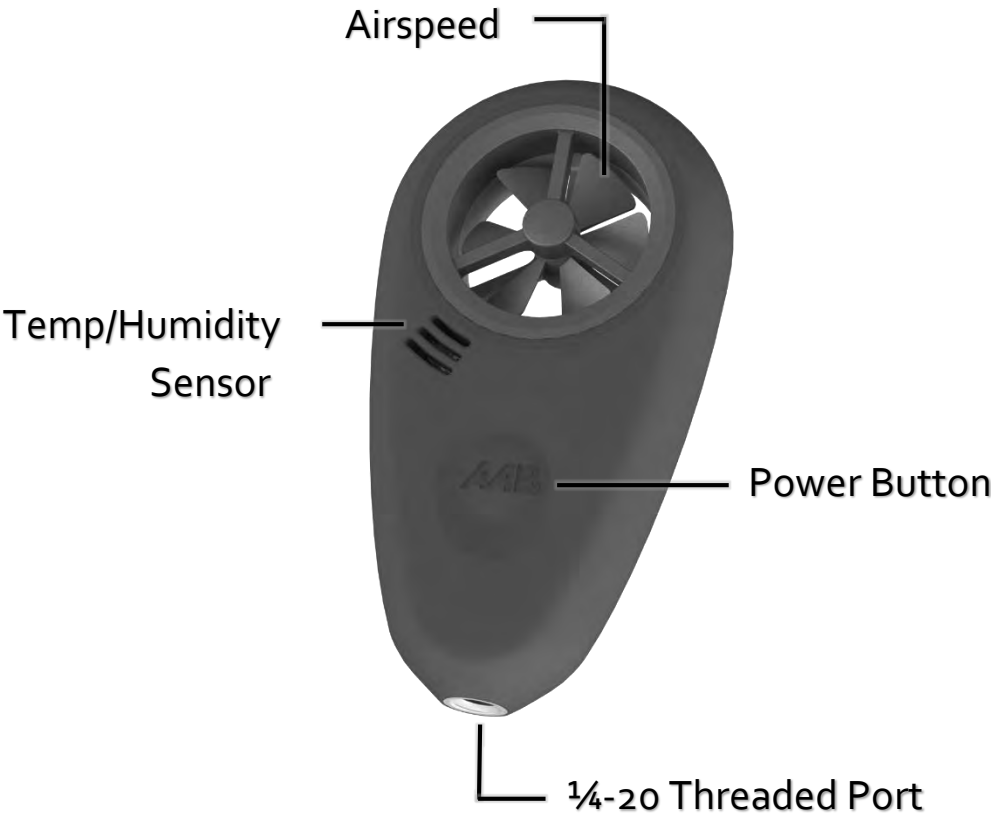
# Introduction to the ABM-200

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Overview



## First Connection


**Step One:** On your smartphone, go to Apple App Store  or Google Play  and download the AAB Smart ABM-200 app marked with a blue icon .

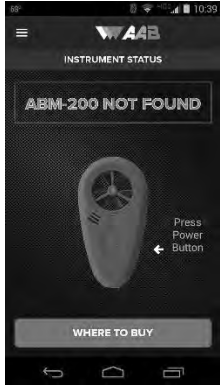
When installing the app, your smart device will ask for you to approve certain permissions such as access to your contacts. This is necessary in order to email reports directly from the app. It will ask for access to your location, this is for geotagging your location. It will ask for access to your photos, this gives you the ability to add your company logo to reports. None of the items granted for access is used for any purpose other than your use of the meter. AAB does not gain access to, receive or retrieve any of your personal data or information.

**Step Two:** In preparing your new ABM-200 for use, remove the white plastic tab/battery insulator. To do so, simply pull the white and green tab in the direction of the arrow.



**Step Three:** Connecting the ABM-200 to the app.

Start the app by selecting ABM-200 blue icon  in the app list. This will bring you to the start screen.



On the ABM-200, press the power button marked with the AAB logo. The app screen will change to show the device is connected and ready to take readings.



The ABM-200 is now paired with the smartphone and ready for use.

**Turning the app off:** For android, press the phone’s back button twice. For Apple,

**Turning the ABM-200 off:** Hold the power button 3 seconds. The ABM-200 will also shut off automatically after 30 seconds, when not connected to the app.

## Settings

**Company Name:** Used to display your company name on reports

**Measurement units:** Allows the selection of Metric or Standard units depending on the regional and user needs.

**Send History To:** This field can be used to relay the history log to an email address of your choosing.

**Manual Free Space Adjust (AK Factor):** This setting is used to offset the amount of free area left by a grille or similar obstruction to the duct. Consult the manufacturer of the grille for the amount of area obstructed or open.

## LED Indicators


The AAB logo is illuminated by an LED for confirmation that the unit is operational. The LED will flash when the button is pressed until connection. Once connected, the LED will stop flashing. The phone will inform the user of the connection to the ABM-200.

When shutting off the ABM-200 with the power button, the LED will fast flash for 1 second to indicate shutdown.

## General Use


The ABM-200 was designed for taking air speed, temperature, and humidity in order to aid the contractor in effectively balancing commercial and residential HVAC systems.

## Sending and Editing Reports

Reports can be accessed and sent with or without the phone connected to an ABM-200. To access saved reports, press the three bar menu button  in the upper left hand corner of the app. In the dropdown menu, choose **History**. All of the reports saved are displayed on this page.

**Viewing Report Data:** In order to see the data in a saved report, tap the report and a Report screen will load. Press the arrow to return to the History screen.

**Export Report:** To export a report, tap **Export** in the lower left corner of the History screen. For Android, a “Complete action using” pop up menu will appear if multiple programs are available. Choose the program you would like to use and it will add the report in HTML format. For Apple, .....

**Deleting Single Report:** Select **Edit** in the top right corner of the History screen. This will place a Delete icon  next to each report. Choose the Delete icon to delete the associated report. When finished, select **Done** in the upper right corner of the screen.

**Delete All:** To delete all of the stored reports, tap **Delete All** in the lower left corner of the history screen.

## Maintenance

### Changing the battery

Step one: Pull lip of blue sleeve out of fan groove. This may require the use of a small flathead screwdriver.



Step two: Remove sleeve by pulling it over the top of the ABM-200 and off of the bottom.



Step three: On the back side of the ABM-200, remove the battery door by pulling it downward.



Step four: Replace battery with a CR2450 coin cell. The positive (+) faces away from the circuit board.

Step Five: Assemble using steps one through three in reverse. When placing the sleeve on the ABM-200, align AAB logo with white button (as shown in picture X).



## **Cleaning**

To clean the ABM-200, start by removing the blue sleeve (see Changing the Battery). Use a damp rag with mild detergent and wipe down exterior. Do not clean with the sleeve on the ABM-200, as water could enter the sensor port, causing damage and voiding the warranty.

## **Storage**

The ABM-200 is to be stored out of direct sunlight in temperatures between 32° and 95° F (0° and 35° C).

## Troubleshooting

PROBLEM	POSSIBLE CAUSE	CORRECTION
ABM-200 not found	Low/dead battery	Replace battery
	Bluetooth off	Turn on phone's Bluetooth
	Pairing not performed through app	Un-pair in OS and pair through app
Incorrect air speed reading	Low battery	Replace battery
	Incorrect AK %	Correct AK adjust percentage
	Meter not perpendicular to airflow	Adjust fan directly into airflow
	Obstruction in front of meter	Remove obstruction
Move meter to side obstruction		
Slow temperature/humidity response	Low air flow	Move into air stream
	Ports blocked	Remove obstruction from front and/or rear ports
Incorrect temperature/humidity reading	Low Battery	Replace battery
	Meter acclimating	Give meter time to adjust to current conditions
	Ports blocked	Remove obstruction from front and/or rear ports
	Direct sunlight	Move from direct sunlight
Fan popped out	Impact to fan area	Align notch and groove on circumference. Press back in.
Screw port doesn't work	Wrong thread size/type	Ensure accessory has a 1/4-20 threaded screw

## Technical Data

**Operational temperature range:** -40°F to +185°F (-40°C to +85°C)

**Operational temperature range, full accuracy:** -32°F to +149°F (0°C to +65°C)

**Power:** Panasonic 3.6V, CR 2450 Coin Cell Lithium Battery

**Battery Life:** >500 hours

**Auto power:** Shuts off 30 seconds after closing or minimizing app or no connection

**Units of Measure:** inWC, inHg, psi, mmWC, mmHg, Pa, kPa, mBar, fpm, cfm, l/s, m/s, F, C, RH%, lb/ft<sup>3</sup>

## Range & Accuracy

**Airflow Velocity:** 44 – 12,320 fpm  $\pm$  0.5%

**Temperature:** -40 to 185°F  $\pm$  0.5°F

**Humidity:** 0-95%  $\pm$  3%

**Pressure:** 300-1100 mbar  $\pm$  0.12 mbar

\*Please note that we are often asked the maximum volume of airflow, this is totally dependent on the size of the duct. For example: 12,320 fpm through a 20" x 24" grille is 41,028 CFM. So the range of this meter goes high enough to satisfy any practical HVAC application.

## Glossary

**Airflow Velocity:** speed in which the air is being moved into or out of the duct.

**Airflow Volume:** amount of air being moved into or out of a duct in a given amount of time.

**Humidity:** a quantity representing the amount of water vapor present in the air.

**AK-factor (K-factor):** amount of space blocked by a grill or other duct cover. Typically supplied by the manufacturer.

**Relative Humidity:** the amount of water vapor present in air expressed as a percentage of the amount needed for saturation at the same temperature.

**Temperature:** the degree of measured heat in an environment.

**Temperature Differential:** difference in temperature between two spaces in a building, or between indoor and outdoor temperature.

**Wet Bulb:** Temperature acquired by use of a thermometer with the bulb enclosed in wetted material.